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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/863,750	05/23/2001	Yoshihiko Gotoh	Ishii Case 17	9121
7590 12/22/2004			EXAMINER	
FLYNN, THIEL, BOUTELL & TANIS, P.C. 2026 Rambling Road Kalamazoo, MI 49008-1699			LOPEZ, CARLOS N	
			ART UNIT	PAPER NUMBER
			1731	

DATE MAILED: 12/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/863,750	GOTOH ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Carlos Lopez	1731	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 October 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-19 is/are pending in the application.
- 4a) Of the above claim(s) 2-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13,14 and 16-19 is/are rejected.
- 7) ☒ Claim(s) 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

***Response to Amendment***

Applicant's amendments filed on 6/21/04/ and 10/04/04 have been entered. The substitute specification filed on 6/21/04 has been entered.

***Election/Restrictions***

This application contains claims 2-12 drawn to an invention nonelected with traverse on 5/15/03. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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Claims 13 and 17-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Sayce et al (US 6,763,682) or under 35 U.S.C. 102(a) as being anticipated by Sayce et al (WO 00/03955), the published international application from which US 6,763,682 claims priority. The US patent will only be referred for citation purposes. Sayce discloses a method of making glass ingot from synthetic silica. Sayce's process comprises providing a rotatable furnace 51 having a rotating crucible 55 as shown in figure 4 (Also note Col. 5, lines 46ff and Col.6, lines 1-9) and having a feeder, deemed as synthesis burners 55, at the top portion of furnace 51. The claimed dropping of silica powder around the center of the furnace bed is deemed as the powder dropping from the silica powder synthesis burners 53 onto the furnace bed formed by crucible 55. As for the claimed fusing of the silica powder onto the furnace, figure 4 shows the glass powder fused and flowing from shaping orifice 60. The claimed deposition of the fused silica at the center of the furnace bed is deemed as the silica being deposited by central burner 53 on the center of the furnace as shown in figure 4. The claimed step of extending the fused silica deposit outwardly from the center of the furnace bed by heating and rotating the furnace is deemed as the flow of fused silica powder from orifice 60 located at the center of the furnace, as shown in figure 4, for which burners 53 provide the necessary heat to cause the fused silica glass to extend outwardly and flow from the furnace orifice 60.

As for claims 17-18, Sayce discloses the formation of a circular cylindrical ingot, which reads on the claimed column or solid round bar ingot (Col. 6, line 26).

As for claim 19, Sayce discloses the formation of a plate shaped ingot (Col. 6, line 28).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sayce et al (US 6,763,682) or alternatively over Sayce et al (WO 00/03955), the published international application from which US 6,763,682 claims priority. The US patent will only be referred for citation purposes. Sayce teaches that the furnace bed comprised of crucible 55 maybe be protected with a ceramic coating (Col. 4, lines 43ff). Sayce is silent disclosing the size and type of the ceramic particles that compromise the ceramic coating. However, Sayce notes that ceramic zirconia provides great erosion resistance at minimized levels of contamination that may contaminate the glass (Col. 6, lines 63-65). It would thus be obvious to a person of ordinary skill in the art at the time the invention was made that the size and type of the ceramic particle compromising the ceramic coating of Sayce would be of sufficient size and of heat resistance that would provide proper protection to the furnace bed from the flowing of molten glass. To a person of ordinary skill in the art in view of Sayce teaching that a ceramic coating is used to protect the furnace bed, would thus conduct routine experiments that would determine the optimum size and type of ceramic particle that would best provide

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protection to the furnace bed. Moreover, a person of ordinary skill in the art would use a zirconia ceramic since it provides great erosion resistance at minimized levels of contamination as taught by Sayce. Furthermore, in using the generic term "ceramic", Sayce clearly envisages the use of ceramic zirconia.

As for claim 16, Sayce is silent in disclosing the rate of raw material, deemed as glass precursor, being fed to the furnace from burners 53 (Col. 5, lines 49ff). The rate at which the raw material is feed would depend on the desired rate of ingot glass production. Thus, claiming a rate of supplied raw material of 1.0 to 10 kg/hr would be obvious to a person of ordinary skill in the art at the time the invention was made in order to attain the desired rate at which glass ingot is produced.

#### ***Allowable Subject Matter***

Claim 15 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The cited prior art fails to disclose or reasonably a method of manufacturing a quartz glass slab ingot comprising the claimed steps of providing a rotatable furnace, dropping silica powder, fusing silica powder, deposition fused silica powder, and extending the fused silica powder wherein the atmosphere of the furnace in which the silica powder is fused has a hydrogen to oxygen gas ratio from 2.1 to 2.5.

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***Response to Arguments***

Applicant's arguments with respect to the Ikeda et al reference have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References B-F and O have been cited to show the state of the art.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Lopez whose telephone number is 571.272.1193. The examiner can normally be reached on Mon.-Fri. 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571.272.1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CL

  
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